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*Building The Wireless Future*™

August 14, 1995

**CTIA**

Cellular Telecommunications Industry Association
1250 Connecticut Avenue, N.W.
Suite 200
Washington, D.C. 20036
202-785-0081 Telephone
202-785-0721 Fax

Mr. William F. Caton
Secretary
Federal Communications Commission
1919 M Street, NW, Room 222
Washington, DC 20554



**Re:** *Notice of Correction*
CC Docket No. 92-115

Dear Mr. Caton:

On July 27, 1995, the Cellular Telecommunications Industry Association ("CTIA") provided a document, *Combating Wireless Fraud: Maintaining the Integrity of Factory-Set Electronic Serial Numbers*, to Commission staff members and other attendees at a meeting to address the pending Petitions for Reconsideration concerning Section 22.919 of the Commission's Rules. Under Tab 2 of that document, CTIA included an affidavit of Garry A. Sutcliffe, Manager of Technical Support and Investigation, Bell Atlantic NYNEX Mobile. Subsequently, it has come to our attention that Mr. Sutcliffe's affidavit did not contain the proper notarization.

Attached is a copy of Mr. Sutcliffe's affidavit which contains the proper notarization. CTIA apologizes for any inconvenience that this administrative error may have created. Pursuant to Section 1.1206 of the Commission's Rules, an original and one copy of this letter and the attachments are being filed with your office. If you have any questions concerning this submission, please contact the undersigned.

Sincerely,

Andrea D. Williams

Andrea D. Williams
Staff Counsel

Attachment

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# Bell Atlantic NYNEX Mobile
# FRAUD / Prevention and Control

Affidavit of Garry A. Sutcliffe

KNOW ALL MEN BY THESE PRESENTS:

BEFORE ME, the undersigned authority, personally appeared Mr. Garry A. Sutcliffe, who after being duly sworn, did state under oath as follows:

"My name is Garry Sutcliffe. I am over the age of eighteen(18) and I am fully competent to make this affidavit in all respects. The facts and opinions contained herein are true, correct and based upon my personal knowledge.

I am a Manager of Technical Support and Investigation at Bell Atlantic NYNEX Mobile, which is located at 2000 Corporate Drive, Orangeburg, New York. I am very familiar with the technical aspects of the cellular business, including the process known as 'ESN emulation'. In the cellular business, an Electronic Serial Number (ESN) is the manufacturers (factory) installed 32 bit binary number that uniquely identifies the cellular telephone to the cellular system. This is similar to a motor vehicles, vehicle identification number (VIN) which uniquely identifies the vehicle. ESNs enable cellular licensees, like Bell Atlantic NYNEX Mobile, to identify the transmissions of each cellular telephone, authorize system usage and bill properly for the calls.

The cellular networks across the nation all operate within the same technical standards so that the customers cellular telephone can 'ROAM' or work in all areas of the country. To this extent all systems throughout the nation operate on the validation of the a mobile identification number (MIN) and the electronic serial number (ESN) as seen by the network. Regardless of how the ESN is altered, tampered, transferred, cloned, emulated, copied, or in some way bypassed by other operating software makes no difference to the cellular network. The network will receive the MIN/ESN combination from the modified cellular telephone and proceed to validate the call based on the information received. This information looks identical to the original phone on the cellular system's network.

ESN emulation by the C2+ process has been done by agents in Bell Atlantic NYNEX for the express purpose of testing the results and interaction of the emulated cellular phone on the network. The emulation causes the phone to transmit a different ESN than that which was factory-installed. This emulated phone transmits a different ESN. Which represents a different cellular phone. The cellular system allows the call to go through because it believes it to be the original phone.

In its efforts to combat cellular fraud, Bell Atlantic NYNEX Mobile has invested millions of dollars in fraud detection technologies. These technologies can detect counterfeit phones on the system by using time / distance, finger printing, etc. These technologies cannot determine which cellular telephone is the authorized phone and which is the counterfeit. Furthermore, these technologies cannot determine whether the counterfeit phone is being used for purposes of fraud or by the subscriber as a second phone. Bell Atlantic NYNEX Mobile expends considerable resources to protect itself and its subscribers from fraud, including the automatic termination ('HOT LINE') on accounts whenever the use of a counterfeit telephone is detected. This would be a continuing problem for the emulated phone and add to the work load of the customer service personnel that would have to restore this service each time. This inability to tell the difference between phones also causes a severe problem if the emulating customer was also cloned and now there was also fraud on the account.

The emulated cellular telephone also causes interference to the operation of the network. (from an traffic engineering department view). On the AT&T system which this carrier uses two cellular phones will cause a number of "call processing errors" which at times results in a technician being dispatched to correct a perceived network problem.

Incoming calls to this phone have 'delivery' problems because the system sees both cellular phones ( through the autonomous registration feature ) and has to decide where to send the incoming call. If both phones were to place a call at the same time the network would disconnect the call that was in progress first. This is done because the switch uses the logic that it just saw a request the initiate a call, therefore it must have forgot to disconnect the last call. From the customers view point he sees poor service with unconnected and dropped calls. They complains to the carrier and requesting credit. In most cases the customer is not even aware that he is the one causing the problem. The carrier in turn has sent installer personnel to the customers location to 'fix' his cellular phone, only to find a Motorola portable, when the network says that it should be a Audiovox mobile. This is another hidden cost to the service providing carrier.

Besides the costs mentioned above, there is also a loss of revenue to the cellular carrier in the form of

1) Activation fees,

2) Monthly access fees,

3) Other feature fees (3-way calling, call waiting, etc.),

4) Taxes due local and state governments,

5) a 911 surcharge on each active number.

The customer of an emulation service could be charged with tax evasion, depending on the situation and laws at the state and local levels.

Customer "good will" is also a factor that the carriers are concerned with. These customers pay a large sum to have their phones emulated and are told that it is legal. Later the cellular carrier turns their phone off and tells them that they cannot use the second phone. The poor service that they create causes them to switch to the other band. In general the carrier takes the brunt of all of the complications of this and is perceived as not managing the complete problem to the satisfaction of the customer.

C2+ Technology knows that their emulation causes interference to the network. In paperwork that I have received from C2+ they state "If more than one phone is on incoming calls may be dropped". C2+ is also aware that the call processing information (MIN/ESN) is transmitted over the air is altered because they state that "The technology is transparent to the switch".

Further affiant sayeth not."

Garry A. Sutcliffe

SUBSCRIBED AND SWORN TO BEFORE ME, the undersigned authority, on this 31st day of July, 1995.

Notary Public

[redacted] New York

[redacted]

Commission Expires [redacted]